REMARKS

Reconsideration of the application is respectfully requested for the following reasons:

1. Formalities

The specification has been revised to correct various formal errors on pages 4 and 5. Because the changes are all formal in nature, it is respectfully submitted that the changes do not involve new matter.

2. Rejection of Claims 13-18 Under 35 USC §112, 2nd Paragraph

This rejection has been addressed by amending claim 13 to recite "the thin ring" rather than "the inner flange of the holding member," thereby correcting the antecedence error.

3. Rejection of Claims 1, 2, 4, 5, 11, 13, and 14 Under 35 USC §102(b) in view of U.S. Patent No. 6,183,221 (Hsieh)

This rejection has been rendered moot by the inclusion, in independent claims 1 and 13, of the respectively limitations of claim 12 and 19.

It is respectfully noted, however, that the Hsieh patent discloses a relatively thick holding member 20, in contrast to the claimed thin inner flange or thin ring, and that the Hsieh patent does not disclose any structure corresponding to the claimed balance plate for attracting a magnet of the rotor and thereby providing an auxiliary balancing force. The auxiliary balancing force provided by the claimed balancing plate stabilizes the rotor and helps make possible the use of a thin reduced contact area between the holding member and the shaft.

4. Rejection of Claims 3, 6-10, and 15-18 Under 35 USC §103(a) in view of U.S. Patent Nos. 6,183,221 (Hsieh) and 5,942,823 (Higuchi)

This rejection has also been rendered moot by the inclusion, in claims 1 and 13, of the limitations of claims 12 and 19. The Higuchi patent, like the Hsieh patent, does not disclose or suggest any structure corresponding to the claimed balancing plate, and has a conventional bearing structure with a large contact area.

5. Rejection of Claims 12 and 19 Under 35 USC §103(a) in view of U.S. Patent Nos. 6,183,221 (Hsieh) and 4,922,162 (Shiraki)

This rejection is respectfully traversed on the grounds that plate 44 of Shiraki is not a balancing plate but rather is a stator yoke that cannot have a balancing effect since it is designed to be *asymmetric*, in order to achieve the objective of self-starting. There is therefore no reason to use plate 44 in the motor of Hsieh, unless the stator of Hsieh is reconstructed to resemble the stator of Shiraki, in which case the claimed invention would still not result since plate 44 has no balancing function.

Essentially, Shiraki teaches a self-starting motor in which the stator yoke is required to be flat and asymmetric. If it is not flat and asymmetric, then objective of self-starting cannot be achieved. However, if the plate is asymmetric, then it cannot achieve a balancing effect, but to the contrary would have an unbalancing effect.

The Examiner is reminded that one of ordinary skill in the art would have considered the Shiraki patent as a whole, *i.e.*, he would have considered the Shiraki patent as teaching an asymmetric flat-coil stator arrangement (*see*, MPEP 2141.02, p. 2100-107: "**A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention** (emphasis in the original).") While it might have been obvious to substitute an asymmetric flat-coil stator arrangement in the motor of Hsieh, based on the teachings of Shiraki, it would not have been obvious to use stator yoke 44 of Shiraki, separated from the flat coils and asymmetry, as a balancing plate. In order to use stator yoke 44 of Shiraki as a balancing plate in the motor of Hsieh, the ordinary artisan would have had to completely ignore the express objectives of the Shiraki patent, as well as the discussion of prior art and most of the detailed description, and even then would have had to substantially reconstruct the motor of Hsieh to accommodate the balancing plate.

Furthermore, even if the motor of Hsieh were re-arranged to use the stator plate 44 of Shiraki, there is no possible reason to re-arrange the shaft support in the manner claimed, and in

particular to include a holding member with a **thin** flange for support the shaft. Shiraki does not disclose any sort of flange, and the inwardly extending portion of holding member 20 of Hsieh is not "thin." It is true that "thin" is a relative term capable of being broadly interpreted. However, the so-called "flange" extending from holding member 20 of Hsieh occupies at least **60%** of the length of the holding member. Under no reasonable definition can such an inwardly extending portion be interpreted as "thin."

Because the Hsieh and Shiraki patents, whether considered individually or in any reasonable combination, fails to disclose all elements of the invention now recited in independent claims 1 and 13, withdrawal of the rejection under 35 USC §103(a) in view of the Hsieh and Shiraki patents is respectfully requested.

Having thus overcome each of the rejections made in the Official Action, withdrawal of the rejections and expedited passage of the application to issue is requested.

Respectfully submitted,

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APPENDIX A
(Clean Copy Of Amended Claims)

1. (Amended) A combination of a rotor and a supporting structure for the rotor, the combination comprising:

a base provided with a metal axle tube;

a holding member securely mounted in the metal axle tube, the holding member including a hole and an inner flange formed on a thin inner periphery defining the hole;

a supporting member securely mounted in the metal axle tube and including as supporting portion;

a fixing member securely mounted in the metal axle tube and including an opening;

a rotor having a permanent magnet, and a shaft provided at a center thereof, the shaft including an engaging groove, the shaft being extended through the hole of the holding member and the opening of the fixing member with an end face of distal end of the shaft rotatably resting on the supporting portion of the support member and with the fixing member engaging with the engaging groove of the shaft, whereby the shaft and the thin inner flange of the holding member have a slight contact therebetween; and

a balance plate mounted to the base and made from magnetically conductive material, the balance plate and the permanent magnet attracting each other to thereby provide an auxiliary balance force for rotation of the shaft on the thin inner flange of the holding member.

13. (Amended) A combination of a rotor and a supporting structure for the rotor, the combination comprising:

a base provided with a metal axle tube including a thin ring formed on an inner periphery thereof;

a supporting member securely mounted in the metal axle tube and including as supporting portion;

a fixing member securely mounted in the metal axle tube and including an opening;

a rotor having a permanent magnet, and a shaft provided at a center thereof, the shaft including an engaging groove, the shaft being extended through the thin ring of the axle tube and

the opening of the fixing member with an end face of distal end of the shaft rotatably resting on the supporting portion of the support member and with the fixing member engaging with the engaging groove of the shaft, whereby the shaft and the thin ring have a slight contact therebetween; and

a balance plate mounted to the base and made from magnetically conductive material, the balance plate and the permanent magnet attracting each other to thereby provide an auxiliary balance force for rotation of the shaft on the thin inner flange of the holding member.

APPENDIX B
(Marked-Up Copy Of Amended Claims)

1. (Amended) A combination of a rotor and a supporting structure for the rotor, the combination comprising:

a base provided with a metal axle tube;

a holding member securely mounted in the metal axle tube, the holding member including a hole and an inner flange formed on [an] a thin inner periphery defining the hole;

a supporting member securely mounted in the metal axle tube and including as supporting portion;

a fixing member securely mounted in the metal axle tube and including an opening; [and]

a rotor having a permanent magnet, and a shaft provided [to] at a center thereof, the shaft including an engaging groove, the shaft being extended through the hole of the holding member and the opening of the fixing member with an end face of distal end of the shaft rotatably resting on the supporting portion of the support member and with the fixing member engaging with the engaging groove of the shaft, whereby the shaft and the thin inner flange of the holding member have a slight contact therebetween; and

a balance plate mounted to the base and made from magnetically conductive material, the balance plate and the permanent magnet attracting each other to thereby provide an auxiliary balance force for rotation of the shaft on the thin inner flange of the holding member.

13. (Amended) A combination of a rotor and a supporting structure for the rotor, the combination comprising:

a base provided with a metal axle tube including a thin ring formed on an inner periphery thereof;

a supporting member securely mounted in the metal axle tube and including as supporting portion;

a fixing member securely mounted in the metal axle tube and including an opening; [and]

a rotor having a permanent magnet, and a shaft provided [to] at a center thereof, the shaft including an engaging groove, the shaft being extended through the thin ring of the axle tube and

the opening of the fixing member with an end face of distal end of the shaft rotatably resting on the supporting portion of the support member and with the fixing member engaging with the engaging groove of the shaft, whereby the shaft and the [inner flange of the holding member] thin ring have a slight contact therebetween; and

a balance plate mounted to the base and made from magnetically conductive material, the balance plate and the permanent magnet attracting each other to thereby provide an auxiliary balance force for rotation of the shaft on the thin inner flange of the holding member.

APPENDIX C
(Clean Copy Of Amended Paragraphs)

Page 4, line 26 to Page 5, line 3:

Fig. 7 illustrates a modified embodiment of the holding member 22, wherein the holding member 22 is in the form of a ring 222 that is securely mounted to an inner periphery defining the hole 221 of the axle tube 2. In addition, a lower end of the hole 221 of the axle tube 2 has a stepped portion 25 for abutting against the fixing member 24 and the support member 23. Thus, the fixing member 24 can be securely retained in place.

Page 5, lines 4-12:

Fig. 8 illustrates another modified embodiment of the holding member 22, wherein the holding member 22 is in the form of a ring 222 that is securely mounted to an inner periphery defining the hole 221 of the axle tube 2. In addition, the hole 221 of the axle tube 2 has an upper stepped portion 26 on the which the ring 222 rests and a lower stepped portion 25 for abutting against the fixing member 24 and the support member 23. Thus, an end face of the distal end of the shaft 31 of the rotor 3 rests on the supporting portion 230 of the support member 23, and the ring 222 and the shaft 31 have the smallest gap therebetween or have a slight contact therebetween, thereby providing the smallest friction area and the lowest noise during rotation of the rotor 3.

Page 5, lines 13-21:

Fig. 9 illustrates a further modified embodiment of the invention, wherein the holding member 22 is in the form of a ring 222 that is directly formed on an inner periphery defining the hole 221 of the axle tube 2. The ring 222 and the shaft 31 have the smallest gap therebetween or have a slight contact therebetween. In addition, a lower end of the hole 221 of the axle tube 2 has a stepped portion 25 for abutting against the fixing member 24 and the support member 23. Thus, an end face of the distal end of the shaft 31 of the rotor 3 rests on the supporting portion 230 of the support member 23, and the ring 222 and the shaft 31 have the smallest gap

therebetween or have a slight contact therebetween, thereby providing the smallest friction area and the lowest noise during rotation of the rotor 3.

Page 5, lines 22-27:

According to the above description, it is appreciated that since the shaft 31 of the rotor 3 rests on the supporting portion 230 of the support member 23 merely at the distal end face of the shaft 31 and since the shaft 31 and the ring or flange 222 of the holding member 22 have the smallest gap therebetween or have a slight contact therebetween, a stable and non-skew rotation of the rotor 3 is obtained while minimizing the noise and friction. Processing and manufacturing the rotor 3 are easy and the cost thereof is reduced accordingly.

APPENDIX D
(Marked-Up Copy Of Amended Paragraphs)

Page 4, line 26 to Page 5, line 3:

Fig. 7 illustrates a modified embodiment of the [fixing] holding member 22, wherein the [fixing] holding member 22 is in the form of a ring 222 that is securely mounted to an inner periphery defining the hole 221 of the axle tube 2. In addition, a lower end of the hole 221 of the axle tube 2 has a stepped portion 25 for abutting against the fixing member 24 and the support member 23. Thus, the fixing member 24 can be securely retained in place.

Page 5, lines 4-12:

Fig. 8 illustrates another modified embodiment of the [fixing] holding member 22, wherein the [fixing] holding member 22 is in the form of a ring 222 that is securely mounted to an inner periphery defining the hole 221 of the axle tube 2. In addition, the hole 221 of the axle tube 2 has an upper stepped portion 26 on the which the ring 222 rests and a lower stepped portion 25 for abutting against the fixing member 24 and the support member 23. Thus, an end face of the distal end of the shaft 31 of the rotor 3 rests on the supporting portion 230 of the support member 23, and the ring 222 and the shaft 31 have the smallest gap therebetween or have a slight contact therebetween, thereby providing the smallest friction area and the lowest noise during rotation of the rotor 3.

Page 5, lines 13-21:

Fig. 9 illustrates a further modified embodiment of the invention, wherein the [fixing] holding member 22 is in the form of a ring 222 that is directly formed on an inner periphery defining the hole 221 of the axle tube 2. The ring 222 and the shaft 31 have the smallest gap therebetween or have a slight contact therebetween. In addition, a lower end of the hole 221 of the axle tube 2 has a stepped portion 25 for abutting against the fixing member 24 and the support member 23. Thus, an end face of the distal end of the shaft 31 of the rotor 3 rests on the supporting portion 230 of the support member 23, and the ring 222 and the shaft 31 have the

smallest gap therebetween or have a slight contact therebetween, thereby providing the smallest friction area and the lowest noise during rotation of the rotor 3.

Page 5, lines 22-27:

According to the above description, it is appreciated that since the shaft 31 of the rotor 3 rests on the supporting portion 230 of the support member 23 merely at the distal end face of the shaft 31 and since the shaft 31 and the ring or flange 222 of the holding member 22 have the smallest gap therebetween [r] or have a slight contact therebetween, a stable and non-skew rotation of the rotor 3 is obtained while minimizing the noise and friction. Processing and manufacturing the rotor 3 are easy and the cost thereof is reduced accordingly.